

What is claimed is:

1. A multimedia IP-data delivery system comprising:

a plurality of IP ports connecting to the Internet;

at least one media file server containing a plurality of media files;

5 a plurality of clients connecting to said IP ports with each of said clients comprising:

a downloading unit,

a media data cache,

a playing unit,

wherein,

10 said downloading unit downloads said media files from said media file server at a downloading speed and stores said media files in said media data cache;

said playing unit draws data of said media file from said media data cache and plays said media file at a playing speed;

15 said downloading unit and said playing unit are operated independently and said downloading speed can be different than said playing speed.

2. The multimedia IP-data delivery system as defined in claim 1 wherein:

said downloading speed is greater than said playing speed;

20 said multimedia IP-data delivery system has an IP-port controlling means which disconnects said downloading unit from said IP ports once said downloading unit completes downloading all of said media files requested by said client either when said playing unit is playing or not playing one of said media files stored in said media data cache.

3. The multimedia IP-data delivery system as defined in claim 2 wherein:

said IP-port controlling means is an IP-port connection control unit connected to said client.

4. The multimedia IP-data delivery system as defined in claim 2 wherein:

5 said IP-port controlling means is an IP-port controller connected to said IP ports.

5. The multimedia IP-data delivery system as defined in claim 1 wherein:

said multimedia IP-data delivery system has a scheduling means scheduling playing and downloading each of said media files independently.

6. The multimedia IP-data delivery system as defined in claim 1 wherein:

10 said downloading speed is less than said playing speed;

said multimedia IP-data delivery system has a scheduling means which delays playing said media files until said media files are completely downloaded and stored in said media data cache.

7. The multimedia IP-data delivery system as defined in claim 1 wherein:

15 said downloading speed is less than said playing speed;

said multimedia IP-data delivery system has a scheduling means which delays playing said media files until the amount of data of said media file in said media data cache is determined to be sufficient enough so that the difference between said playing speed of said media file and said downloading speed does not cause drain of the data of said media file in said media data cache during the whole course of playing said media file.

20 8. The multimedia IP-data delivery system as defined in claim 1 wherein:

each of said clients comprises a software program implementing a process comprising the steps of:

- (8-1) starting said software program and then proceeding to step 8-2,
- (8-2) comparing said downloading speed to said playing speed, and proceeding to step 8-3 and step 8-7 if said downloading speed is greater than said playing speed, and proceeding to step 8-12 if said downloading speed is less than said playing speed,
- 5 (8-3) checking whether a new play has been scheduled, and proceeding to step 8-5 if a new play has been scheduled, or proceeding to step 8-4 if no new play is scheduled,
- (8-4) going back to step 8-3 after a delay of a predetermined number of seconds,
- (8-5) starting play of one of said media files scheduled by said scheduling unit, and proceeding to step 8-6,
- 10 (8-6) checking if said play is completed, and continuing said play if said play is not completed, and going back to step 8-3 if said play is completed,
- (8-7) starting download of said media files at a maximum available speed, and proceeding to step 8-8,
- 15 (8-8) checking if said download has been completed, and proceeding to step 8-9 if said download is completed, and continuing said download if said download is not completed,
- (8-9) checking if a new-download is scheduled, and going back to step 8-7 if said new-download is scheduled, and proceeding to step 8-10 if said new-download is not scheduled,
- 20 (8-10) releasing connection between said client and said IP ports, and proceeding to step 8-11,
- (8-11) delaying for a predetermined number of seconds and going back to step 8-9 to check a new download schedule,
- (8-12) starting narrowband download of said media files at a maximum available speed, and proceeding to step 8-13,

(8-13) proceeding to step 8-14 and step 8-15 if said narrowband download is completed, or continuing downloading if said narrowband download is not completed,

(8-14) starting a new download and proceeding to step 2-12,

(8-15) caching and making downloaded one of said media files available for playing.